

Arizona Health Care Cost Containment System (AHCCCS)
Oral Health Quality Improvement Project (QIP) 2003
Methodology

Project Title: **Annual Dental Visits Quality Improvement Project**

Background: Oral health is inseparable from overall health status.^{1,2} A child's ability to learn and articulate can be affected by problems of the teeth and gums.

Most oral diseases are preventable. However, tooth decay is one of the most common infectious diseases among children today.¹ It is five times more common than asthma in children 5 to 17 years old.³

According to the Arizona Office of Oral Health, at 2 years of age, 5 percent of all Arizona children have some tooth decay. By the time they reach 8 years old, 60 percent of all Arizona children will have tooth decay. This compares with a national rate of 52 percent of all children 8 years old who have tooth decay.²

Increased access to oral health services, such as the application of topical fluorides and dental sealants, is key to reducing the rate of tooth decay and other oral diseases among children.¹

AHCCCS covers medically necessary oral health services for Medicaid-eligible children through age 20 as part of Early and Periodic Screening, Diagnosis and Treatment (EPSDT) services. Oral health services also are covered for children enrolled in KidsCare, the State Child Health Insurance Program (SCHIP), through 18 years of age.

AHCCCS-covered oral health services for children and adolescents include dental screening in the Primary Care Provider's (PCP's) office; preventive dental services, such as application of topical fluorides and dental sealants; and therapeutic and emergency dental services, such as crowns and tooth extractions. According to AHCCCS medical policy, PCPs should refer children for routine dental visits at least once a year, beginning at age 3. These members also may see a dentist without a referral.

Purpose: The purpose of the Oral Health Quality Improvement Project (QIP) is to increase the rate of annual dental visits among AHCCCS members younger than 21, in order to make more progress toward AHCCCS and national "Healthy People 2010" goals. Using the following methodology, AHCCCS will establish a baseline measure of annual dental visits overall and by Contractor from which to measure improvement.

Factors affecting the low use of dental care by low-income populations include limited participation of dentists in Medicaid, a lack of understanding and awareness by members of the importance of preventive oral health care, fear and apprehension of dental procedures, and difficulty obtaining transportation to the dentist, child care or time off work.⁴

This quality improvement project will focus on developing or improving interventions to help address factors that contribute to low utilization of dental services. In addition, this project addresses the AHCCCS requirement that acute and long-term care Contractors conduct Quality Improvement Projects.

**Measurement
Period:**

The baseline measurement period will be October 1, 2001, through September 30, 2002

**Study
Questions:**

1. What is the number and percentage (overall, by individual Contractor and by county) of Medicaid (Title XIX) members enrolled with acute-care Contractors who meet the sample frame criteria and who receive one or more dental visits?
2. What is the number and percentage (overall and by county) of Medicaid (Title XIX) members enrolled with the Comprehensive Medical and Dental Program (CMDP) who meet the sample frame criteria and who receive one or more dental visits?
3. What is the number and percentage (overall, by individual Contractor and by county) of KidsCare (Title XXI) members enrolled with acute-care Contractors who meet the sample frame criteria and who receive one or more dental visits?
4. What is the number and percentage (overall and by county) of members enrolled with the Division of Developmental Disabilities (DDD) who meet the sample frame criteria and who receive one or more dental visits?
5. What is the number and percentage (overall, by individual Contractor and by county) of Arizona Long Term Care System (ALTCS) members enrolled with ALTCS Contractors for the elderly and physically disabled (EPD) and ventilator dependent (VD) populations who meet the sample frame criteria and who receive one or more dental visits?

Population: While all AHCCCS members up to 21 years of age should have an annual dental visit, the project will specifically focus on those who are 3 through 8 years old for the acute-care, CMDP, KidsCare and DDD populations.* The ALTCS group in this study will include all members 3 through 20 years, in order to have an adequate population from which to draw valid conclusions.

* As previously noted, literature suggests that the rate of tooth decay increases dramatically between the ages of 3 through 8.; thus, this appears to be a critical time in a child's life to ensure that he or she receives regular preventive dental care.

Sample Frame: The sample frame consists of members who meet the following criteria:

- For the acute-care, CMDP, KidsCare and DDD populations, children ages 3 through 8 who are continuously enrolled during the measurement period, or
- For the ALTCS population, members ages 3 through 20 who are continuously enrolled during the measurement period, and
- Who are enrolled as of September 30, 2002, and
- Who have no more than one break in enrollment up to 31 days.

Population Exclusions: This indicator does not include children in the AHCCCS fee-for-service program (i.e., Indian Health Services and Emergency Services Program).

Data Sources: Recipient enrollment data will be used to identify members who meet the denominator criteria. Encounter data will be used to identify members who receive dental services.

Data Collection: All data will be collected from AHCCCS administrative data.

Confidentiality Plan: AHCCCS continues to work in collaboration with Contractors to develop, implement and monitor Health Insurance Portability and Accountability Act (HIPAA) compliance.

The Clinical Research and Data (CRD) Unit has established and maintains the following security and confidentiality protocols:

- To prevent unauthorized access, the sample member file is maintained on a secure, password-protected computer, by the CRD project lead.
- Only CRD employees who enter or analyze data have access to study data.
- All employees and Contractors are required to sign a

confidentiality agreement.

- Contractors are required to sign a data sharing agreement.
- Whenever possible, only member ID numbers are used in identifying and collecting data on members.
- Member names are never identified or used in reports.
- All results are reported as aggregates and do not contain any individually identifiable information.
- Upon completion, all study information is removed from the computer and placed on a compact disk.
- The compact disk is stored in a secured location.

Data Validation: Data validation will be performed to ensure that all data received from the Information Services Division (ISD) are from the appropriate service records and meet this indicator's service selection criteria, and that all recipients selected meet the proper enrollment criteria.

The Clinical Research and Data Unit (CRD) in the Office of Medical Management (OMM) will develop a quality control (QC) process based on the indicator methodology. CRD will verify that the proper groups of children are selected in regard to services received and enrollment criteria by use of the AHCCCS online recipient and encounter systems. The QC report provided by ISD will be used to complete data validation.

Indicators:

1. The percent (overall, by individual Contractor and by county) of Medicaid (Title XIX) members ages 3 through 8 years who are enrolled with acute-care Contractors and have any dental visit between October 1, 2001, and September 30, 2002.
2. The percent (overall and by county) of Medicaid (Title XIX) members ages 3 through 8 years who are enrolled with CMDP and have any dental visit between October 1, 2001, and September 30, 2002.
3. The percent (overall, by individual Contractor and by county) of KidsCare (Title XXI) members ages 3 through 8 years who are enrolled with acute-care Contractors and have any dental visit between October 1, 2001, and September 30, 2002.
4. The percent (overall and by county) of DDD members ages 3 through 8 years who have any dental visit between October 1, 2001, and September 30, 2002.
5. The percent (overall, by individual Contractor and by county) of Arizona Long Term Care System (ALTCS) members enrolled with

ALTCS Contractors for the EPD and VD populations who are ages 3 through 20 years and have any dental visit between October 1, 2001, and September 30, 2002.

- Denominators:**
1. *The number of Medicaid (Title XIX) members enrolled with acute-care Contractors and ages 3 through 8, as of September 30 of the measurement period, who are continuously enrolled with the same Contractor during the measurement period, allowing for no more than one break in enrollment, not to exceed 31 days.*
 2. *The number of Medicaid (Title XIX) members enrolled in CMDP and ages 3 through 8, as of September 30 of the measurement period, who are continuously enrolled with the same Contractor during the measurement period, allowing for no more than one break in enrollment, not to exceed 31 days.*
 3. *The number of KidsCare (Title XXI) members enrolled with acute-care Contractors and ages 3 through 8, as of September 30 of the measurement period, who are continuously enrolled with the same Contractor during the measurement period, allowing for no more than one break in enrollment, not to exceed 31 days.*
 4. *The number of members enrolled in DDD and ages 3 through 8, as of September 30 of the measurement period, who are continuously enrolled with the same Contractor during the measurement period, allowing for no more than one break in enrollment, not to exceed 31 days*
 5. *The number of ALTCS members enrolled with long-term care Contractors and ages 3 through 20, as of September 30 of the measurement period, who are continuously enrolled with the same Contractor during the measurement period, allowing for no more than one break in enrollment, not to exceed 31 days.*

Numerators: The number of members in each denominator group who receive one or more dental visits.

- Analysis Plan:**
- The results of dental visits overall and for each denominator group will be calculated as the number of unduplicated members in the denominator who have at least one visit for any of the following: preventive care only, treatment only, or both preventive and treatment services.
 - Data for each county will be analyzed in the same way, with separate results for each denominator group.
 - The performance of each Contractor will be compared to AHCCCS and Healthy People 2010 goals.*
 - Two standard deviations from the mean will be calculated to identify any Contractor whose results may be considered an outlier. Aggregate results will be calculated with and without any outliers.

*AHCCCS has established contractual performance standards for annual dental visits for acute-care Contractors (including Medicaid and KidsCare populations), as well as CMDP and DDD. These standards are based on the ultimate goal, or benchmark, set by the U.S. Department of Health and Human Services in Healthy People 2010. Contractual performance standards for dental visits have not been established for ALTCS Contractors serving the elderly and physically disabled (EPD) population. However, these Contractors must provide dental services as specified in federal Early and Periodic Screening, Diagnosis and Treatment (EPSDT) requirements.

- Deviations from HEDIS[®]**
- AHCCCS will measure services received by members ages 3 through 8 for the Medicaid acute-care, CMDP, KidsCare and DDD populations, and members ages 3 through 20 for the ALTCS EPD and VD populations. HEDIS[®] includes members ages 3 through 21 in its measure of children's annual dental visits.
 - AHCCCS will include procedure codes D6200-D6999 (fixed prosthodontics) under Procedure Classification Code 76 as treatment services. HEDIS[®] does not include these codes in its measure of annual dental visits.

- Limitations:**
- Several issues have been identified in past studies that could impact both the denominators and the numerators of this project:
- Medicaid beneficiaries are highly mobile and may lose eligibility or change Contractors when they move. Due to the continuous enrollment criteria for the denominator, many children may not be eligible for the study.
 - Pended encounters will not be included.

Report Format: Results will be reported by Medicaid acute-care, CMDP, KidsCare, DDD, ALTCS/EPD and ALTCS VD populations, and by each county according to study questions (see attached sample tables).

Technical

Recipient Subsystem Requirements

Specifications:

- A member must be 3 through 8 years of age as of September 30 of the measurement period for the Medicaid acute-care, CMDP, KidsCare and DDD populations, and ages 3 through 20 for the ALTCS/EPD and ALTCS VD population.
- A member must be continuously enrolled during the measurement period and as of September 30 of the measurement period.
- A member must be enrolled with one Contractor for the entire measurement period:
 - ^a *Select enrollment only for contract type 'A', 'B', and 'N' for Acute*
 - ^a *Select Contractor ID 010166 for CMDP*
 - ^a *Select 'V', 'W', 'Y' for KidsCare*
 - ^a *Select Contractor ID 110007 for DES/DDD and 550005 DES/DDD LTC VD*
 - ^a *Select Contractor IDs 110057 through 11025 for ALTCS*
 - ^a *Select Contractor IDs 550003 and 550013 through 550306 for ALTCS VD*
- A member with one single enrollment gap *not to exceed 31 days*, is considered to have continuous enrollment and will be included in the population.
- An enrollment change from the Medicaid to KidsCare or KidsCare to Medicaid programs within the same Contractor with one single enrollment gap, not exceeding 31 days, will not be considered a break in enrollment. These members will be included in results for the program in which they are enrolled on September 30 of the measurement period.
- An enrollment change from an acute-care Contractor to a long-term care Contractor and back to an acute-care Contractor within 31 days will be treated as a break in acute-care enrollment instead of enrollment with more than one Contractor during the measurement period. These members will be included in results for the program in which they are enrolled on September 30 of the measurement period.
- A change of county service area within the same Contractor without any gap of enrollment is not considered a break in enrollment. Members who stay with the same Contractor, but move to a different county during the measurement period, will be assigned to the last county of residence.
- A member's enrollment-begin date is the begin date of the measurement period. The enrollment-end date is the end date of the measurement period. If the allowable gap appears at the beginning of the measurement period, then the member's enrollment-begin date is the first enrollment date after the gap.
- Any member enrolled in the following is to be excluded:

000850 – State Emergency Services	000950- Federal Emergency Services
000960 – Family Planning Services	003335 - Permanent Fee-For-Service
008690 – Temporary Fee-For-Service	010174 - Maricopa LTC, Residual
010182 – Pima LTC, Residual	999998 - Indian Health Services
888886 – Fee-For-Service LTC, residual	079873 – DHS
999111 – Children's Rehabilitative Service	190000-190009 – ALTCS Tribal Contractors
- Prior Period Coverage (PPC) is not considered part of continuous

- enrollment and will be treated as a break in enrollment.
- Members with rate codes 36xx (AHC) and 45xx (TANF/SOBRA) are to be excluded.
- A data file containing the information for each member that is to be used to identify services received will be created.

Encounter Subsystem Requirements

Utilizing data from the Recipient Subsystem, all encounters (HCFA Form 1500 and UB 82/92) will be selected for members based on the service selection criteria listed below.

- Encounters will be included if the begin-date-of-service falls within the reporting period.
- All services for the member will be reported under the member's last county of residence in the reporting period.
- The selected encounters will be sorted by members' primary ID numbers and totaled as members who received dental services.
- Total counts and percentages will be calculated for the following:
 - ^a Members enrolled with acute-care Contractors, CMDP, KidsCare, DES/DDD, DES/DDD VD, and ALTCS.
 - ^a Total number receiving dental services.
- Encounters from the Arizona Department of Health Services/Children's Rehabilitative Services (CRS) and ADHS/Behavioral Health Services (BHS) will be excluded. Children receiving services through CRS or BHS who also are enrolled with another Contractor will be included in the other Contractor's data.

Service Selection Criteria –Preventive Services

For services reported on Form "D" (Dental) use the following logic:

Procedure class code = 70 or 71 or

Procedure code range = D0100 – D0999 or D1000 – D1999

For services reported on any other form:

CPT-4 codes (UB82/92 or HCFA 1500)

70300 – 70320 Radiological exams (partial, complete, single, unilateral, bilateral)

70350 Cephalogram, Orthodontic

70355 Orthopantogram

OR

Procedure Class Codes

70	Diagnostic	D0100-D0999
71	Preventive	D1000-D1999

OR

ICD-9 Procedure Code (UB 82/92)

87.11 Full mouth X-Ray of Teeth
87.12 Other dental X-Ray
89.31 Dental examination

OR

ICD-9 Diagnostic Code (UB 82/92)

V72.2 Dental examination

In conjunction with Revenue Code

510 Clinic
512 Dental Clinic
515 Pediatric Clinic
519 Other Clinic

OR

HCPCS Codes (UB82/92 or HCFA 1500)

D1310 Nutritional counseling for the control of dental disease

OR

ICD-9 Diagnostic Code (HCFA 1500)

V72.2 Dental examination

In conjunction with Provider Types

07 Dentist
54 Dental Hygienist

OR

In conjunction with Category of Service

11 Dental

OR

In conjunction with Provider Specialty Type

800	Dentist – General
801	Dentist – Orthodonture
802	Dentist – Endodontist
803	Dentist – Oral Pathologist
804	Dentist – Pedodontist
805	Dentist – Prosthodontist
806	Dentist – Periodontist
807	Dentist – Public Health
808	Dentist – Oral Surgeon
809	Dentist – Anesthesiologist

Service Selection Criteria – Treatment Services

For services reported on Form “D” (Dental) use the following logic:

Procedure class codes = 72 through 79

OR

Procedure range = D2000 – D9999

Procedure Class Codes

72	Restorative	D2000-D2999
73	Endodontics	D3000-D3999
74	Periodontics	D4000-D4999
75	Prosthodontics	D5000-D5999
76	Implant Services	D6000-D6199
	Fixed Prosthodontics	D6200-D6999
77	Oral Surgery	D7000-D7999
78	Orthodontics	D8000-D8999
79	Adjunctive General Services	D9000-D9999

Note:

Codes D6200-D6999 will also be included as treatment codes under Classification code 76 although they are not included in HEDIS.

OR

ICD-9 Procedure Code (UB 82/92)

23.xx	Removal and restoration of teeth
24.xx	Other operations on teeth, gums, and alveoli
93.55	Dental wiring
96.54	Dental scaling, polishing and debridement
97.22	Replacement of dental packing
97.33	Removal of dental wiring
97.34	Removal of dental packing

97.35 Removal of dental prosthesis
99.97 Fitting of denture

Note:

The procedural classification codes for dental will be used in lieu of the individual HCPCS codes for programming purposes. The following classification codes will have to be updated annually: 70, 71, 72, 73, 74, 75, 76, 77, 78 and 79.

ISD Reports

Report:

Each Contractor's data will be reported by individual county serviced and for the Contractor as a whole, and the aggregated total for all Contractors (*see sample Report #IM03R088*).

File:

ISD will produce denominator ASCII files for acute-care Contractors, CMDP, KidsCare, DES/DDD, DES/DD VD, and ALTCS with the following data elements: Files will be sorted by Contractor, by age.

- Contractor
- Member Name (Last, First, Middle Initial)
- Member's AHCCCS ID (Primary and Secondary)
- Member's Date of Birth
- Enrollment period's (start and end)
- Measurement period
- Calculate age
- County
- Contract type
- Rate-code – Use for KidsCare only

References:

¹ Oral Health in America: A Report of the Surgeon General. U.S. Public Health Service, Department of Health and Human Services, 2000

² Arizona Oral Health Update. Arizona Department of Health Services, Office of Oral Health, May 2000

³ Oral Health 2000 Facts and Figures. National Center for Chronic Disease Prevention and Health Promotion, Office of the Surgeon General, May 2000

⁴ Oral Health: Factors contributing to Low Use of Dental Services by Low-income Populations. United States General Accounting Office, September 2000